

# Work Order ID 67341

Tuesday, March 15, 2011 2:22:37 PM



Page 1

Item ID: D205-634-011DG

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube, Drab Green

Start Date: 3/15/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/15/2011 Req'd Qty: 1.00



Customer:

Reference: Rework

Run Start



Approvals: Process Plan: *W*

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

100

0.00



DC

Document Control

Memo

0.00

Photocopy bluefile & type labels per PPP D205-634-011DG  
CHG 008

*Dubos/122*

104

0.00



HandFinish

Hand Finishing

Memo

0.00

PULL FROM STOCK:  
1 X D205-634-011DG B671031

*X* REMOVE CAP, PUT ASIDE TO REASSEMBLE TO SAME TUBE

105

0.00



Skidtubes

Skidtubes

Memo

0.00

REMOVE CRACKED SPACERS D4202-1  
REPLACE WITH NEW SPACERS  
D4202-1 B *62308* (.049W)

*2ND From Aft*

*DP 11-3-16*

<b>DART</b> Dart Aerospace Ltd. 1270 ABERDEEN ST. HAWKESBURY, ON, CANADA K6A 1K7				TC APPROVAL # 09-89 TEL: 1-613-632-5200	
P/N	D205-634-011DG	CHG	CHG008		
DESC.	Skidtube	STC	SH96-88		
LOT	B67103	STC	SR00563NY		
MODEL	Bell 205/210/212/214/412/UH-1H	STC			
PATENTS: US #5735484 / CA #2222184 EUROPEAN No. # 0828655				MADE IN CANADA D2729-2	

*11-3-22*

*11-3-15*

**Work Order ID 67341**

Tuesday, March 15, 2011 2:22:37 PM



Page 2

Item ID: D205-634-011DG

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube, Drab Green

Start Date: 3/15/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/15/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
106  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00							
107  Powdercoat Powder Coating	Memo ✓ TOUCH UP A/R ✓ REASSEMBLE ORIGINAL CAP	0.00 0.00							
108  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00							

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

2. Once the problem is identified, the next step is to define the objectives and goals of the project. This helps to clarify what needs to be achieved and provides a clear direction for the team.

3. The third step is to develop a plan or strategy to address the problem. This involves breaking down the problem into smaller, manageable tasks and determining the resources needed to complete them.

4. The fourth step is to implement the plan. This involves putting the strategy into action and monitoring progress regularly to ensure that the project is on track.

5. The final step is to evaluate the results of the project. This involves assessing the outcomes against the objectives and goals and identifying any areas for improvement.

Page 3

1  
 2  
 3  
 4  
 5  
 6  
 7  
 8  
 9  
 10  
 11  
 12  
 13  
 14  
 15  
 16  
 17  
 18  
 19  
 20  
 21  
 22  
 23  
 24  
 25  
 26  
 27  
 28  
 29  
 30  
 31  
 32  
 33  
 34  
 35  
 36  
 37  
 38  
 39  
 40  
 41  
 42  
 43  
 44  
 45  
 46  
 47  
 48  
 49  
 50  
 51  
 52  
 53  
 54  
 55  
 56  
 57  
 58  
 59  
 60  
 61  
 62  
 63  
 64  
 65  
 66  
 67  
 68  
 69  
 70  
 71  
 72  
 73  
 74  
 75  
 76  
 77  
 78  
 79  
 80  
 81  
 82  
 83  
 84  
 85  
 86  
 87  
 88  
 89  
 90  
 91  
 92  
 93  
 94  
 95  
 96  
 97  
 98  
 99  
 100  
 101  
 102  
 103  
 104  
 105  
 106  
 107  
 108  
 109  
 110  
 111  
 112  
 113  
 114  
 115  
 116  
 117  
 118  
 119  
 120  
 121  
 122  
 123  
 124  
 125  
 126  
 127  
 128  
 129  
 130  
 131  
 132  
 133  
 134  
 135  
 136  
 137  
 138  
 139  
 140  
 141  
 142  
 143  
 144  
 145  
 146  
 147  
 148  
 149  
 150  
 151  
 152  
 153  
 154  
 155  
 156  
 157  
 158  
 159  
 160  
 161  
 162  
 163  
 164  
 165  
 166  
 167  
 168  
 169  
 170  
 171  
 172  
 173  
 174  
 175  
 176  
 177  
 178  
 179  
 180  
 181  
 182  
 183  
 184  
 185  
 186  
 187  
 188  
 189  
 190  
 191  
 192  
 193  
 194  
 195  
 196  
 197  
 198  
 199  
 200  
 201  
 202  
 203  
 204  
 205  
 206  
 207  
 208  
 209  
 210  
 211  
 212  
 213  
 214  
 215  
 216  
 217  
 218  
 219  
 220  
 221  
 222  
 223  
 224  
 225  
 226  
 227  
 228  
 229  
 230  
 231  
 232  
 233  
 234  
 235  
 236  
 237  
 238  
 239  
 240  
 241  
 242  
 243  
 244  
 245  
 246  
 247  
 248  
 249  
 250  
 251  
 252  
 253  
 254  
 255  
 256  
 257  
 258  
 259  
 260  
 261  
 262  
 263  
 264  
 265  
 266  
 267  
 268  
 269  
 270  
 271  
 272  
 273  
 274  
 275  
 276  
 277  
 278  
 279  
 280  
 281  
 282  
 283  
 284  
 285  
 286  
 287  
 288  
 289  
 290  
 291  
 292  
 293  
 294  
 295  
 296  
 297  
 298  
 299  
 300  
 301  
 302  
 303  
 304  
 305  
 306  
 307  
 308  
 309  
 310  
 311  
 312  
 313  
 314  
 315  
 316  
 317  
 318  
 319  
 320  
 321  
 322  
 323  
 324  
 325  
 326  
 327  
 328  
 329  
 330  
 331  
 332  
 333  
 334  
 335  
 336  
 337  
 338  
 339  
 340  
 341  
 342  
 343  
 344  
 345  
 346  
 347  
 348  
 349  
 350  
 351  
 352  
 353  
 354  
 355  
 356  
 357  
 358  
 359  
 360  
 361  
 362  
 363  
 364  
 365  
 366  
 367  
 368  
 369  
 370  
 371  
 372  
 373  
 374  
 375  
 376  
 377  
 378  
 379  
 380  
 381  
 382  
 383  
 384  
 385  
 386  
 387  
 388  
 389  
 390  
 391  
 392  
 393  
 394  
 395  
 396  
 397  
 398  
 399  
 400  
 401  
 402  
 403  
 404  
 405  
 406  
 407  
 408  
 409  
 410  
 411  
 412  
 413  
 414  
 415  
 416  
 417  
 418  
 419  
 420  
 421  
 422  
 423  
 424  
 425  
 426  
 427  
 428  
 429  
 430  
 431  
 432  
 433  
 434  
 435  
 436  
 437  
 438  
 439  
 440  
 441  
 442  
 443  
 444  
 445  
 446  
 447  
 448  
 449  
 450  
 451  
 452  
 453  
 454  
 455  
 456  
 457  
 458  
 459  
 460  
 461  
 462  
 463  
 464  
 465  
 466  
 467  
 468  
 469  
 470  
 471  
 472  
 473  
 474  
 475  
 476  
 477  
 478  
 479  
 480  
 481  
 482  
 483  
 484  
 485  
 486  
 487  
 488  
 489  
 490  
 491  
 492  
 493  
 494  
 495  
 496  
 497  
 498  
 499  
 500  
 501  
 502  
 503  
 504  
 505  
 506  
 507  
 508  
 509  
 510  
 511  
 512  
 513  
 514  
 515  
 516  
 517  
 518  
 519  
 520  
 521  
 522  
 523  
 524  
 525

[illegible]

1. The first step in the process is to identify the problem. This involves gathering information about the situation and the people involved.

2. The second step is to analyze the problem. This involves breaking the problem down into smaller parts and identifying the causes.

3. The third step is to develop a plan. This involves deciding on the best way to solve the problem and setting goals.

4. The fourth step is to implement the plan. This involves putting the plan into action and monitoring progress.

5. The fifth step is to evaluate the results. This involves checking to see if the problem has been solved and if the goals have been met.

[illegible]

\_\_\_\_\_

**Reference:**



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

0.00

**SECRET**

## Memo

RE-PACKAGE USING NEW B/N

0.00

K10003 B 67046 CH7602

QC4- 100% Inspect kits for completeness

0.00

[illegible]

## Memo

## Quality Control

0.00

8/10/22

0.00

[illegible]

## Memo

### Packaging

Identify and pack for shipping as per PPP D205-634-011DG

Location: \_\_\_\_\_  
PPP rev: \_\_\_\_\_

0.00

11/3/2018

**Work Order ID 67341**

Tuesday, March 15, 2011 2:22:37 PM



Page 4

Item ID: D205-634-011DG

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube, Drab Green

Start Date: 3/15/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/15/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

QC21- Final Inspection - Work Order Release

0.00




QC

Memo

0.00

Quality Control

11/3/22   
MF  
11-03-22

**POSITIVE RECALL**EFFECTIVE 11.03.16 AUTH afRELEASED af DATE 11.03.17

# Picklist Print

Tuesday, March 15, 2011 2:22:33 PM

Page 1  
T

Work Order ID: 67341



Parent Item: D205-634-011DG



Parent Item Name: Skidtube, Drab Green

Start Date: 3/15/2011

Required Date: 3/15/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 11.02.17 new issue DD verified by: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D205-634-011DG

Manufactured

No

Each

3.0000



1  
B 67103 8 11/03/15

Skidtube, Drab Green

Location

Loc Qty

Loc Code

FG

3

67101

1

67102

1

67105

1

D4202-1

Manufactured

No

Each

333.0000



1

Spacer

Location

Loc Qty

Loc Code

LG

8

67308

8

LG002

325

65529

13

66121

1

66929

110

67129

201

1 11-3-16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11.03.16	UP 11.03.16 BS/ML	RE-WORK CRACKED 0.058" WALL X-BOLT SPACERS. REPLACE WITH 0.049" WALL X-BOLT SPACERS THAT ARE OTHERWISE MADE TO D4202 REV.A				UP 11.03.16 BS/ML	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

## Chris Provencal

---

**From:** David Shepherd <dshepherd@dartaero.com>  
**Sent:** March 16, 2011 6:21 PM  
**To:** 'Chris Provencal'  
**Cc:** 'Mike Petsche'; 'Linda Lacelle'; 'Bill Beckett'  
**Subject:** RE: 0.049 Wall Xbolt Spacers

Chris,

The substitution is acceptable. However, I would still like to see that this is repeatable. Per my earlier suggestion, I assume production is building a couple of tubes with 0.049 wall crossbolt spacers to verify that there is no cracking after several swagings???

David

---

**From:** Chris Provencal [mailto:cprovencal@dartaero.com]  
**Sent:** Wednesday, March 16, 2011 9:14 AM  
**To:** David Shepherd  
**Cc:** Mike Petsche  
**Subject:** 0.049 Wall Xbolt Spacers

David,

To approve the re-worked xbolt spacers, I'd need to attach an email from you giving OK to substitute the 0.058" wall crossbolt spacers with 0.049" wall crossbolt spacers. The crossbolt spacers are otherwise made to D4202 Rev. A.

The justification would be the initial testing, as recorded in the original design review, which showed that 0.049" wall xbolt spacers were stronger than welded/c-bored crossbolt spacers. These findings were confirmed when we tested another batch of swaged vs welded samples yesterday (March 15<sup>th</sup>, 2011).

Chris